

December 2, 1986

Dear Manufacturer:

CD-86-19 (LD)

SUBJECT: International Harmonization of Certification Testing
Procedures

Based on a request from Volkswagen of America, the Certification Division has approved several flexibilities which will allow manufacturers certifying vehicles for sale in both the U.S. and Germany to, in many instances, use the same test vehicle. We are announcing these allowances because this appears to be an issue of universal interest to the automobile industry. Enclosed for your information is the initial request from Volkswagen and our response.

Any questions concerning these allowances should be directed to your certification team member.

Sincerely,

Robert E. Maxwell, Director
Certification Division
Office of Mobile Sources

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ANN ARBOR, MICHIGAN 48105

November 21, 1986

Mr. Wolfgang Groth
Manager -Emissions & Fuel Economy
Volkswagen of America, Inc.
293 East Liberty Plaza
P.O. Box 7050
Ann Arbor, MI 48107

Dear Mr. Groth:

This is in response to your September 18, 1986 letter concerning reductions in the certification test burden through the use of testing procedures which satisfy both United States and German certification requirements.

In your letter, you explained that the German durability testing schedule specifies emission testing every 10,000 kilometers (6,250 miles) with the final test at 80,000 kilometers (50,000 miles). To make this schedule compatible with 40 CFR 86.084-26, you propose either the addition of a 5,000-mile test, or use of the 6,250-mile test as a substitute for a 5,000-mile test. Section 86.084-26 provides considerable flexibility in regard to the durability testing of vehicles and engines. For light-duty vehicles, a minimum of two emission tests, one at 5,000-miles and one at 50,000-miles, are required. The purpose of establishing the 5,000-mile initial test point was to provide test at low mileage, and yet assure that the vehicle is stabilized (e.g., no catalyst or engine breakin effects remain). For the purpose of harmonizing our programs, we would accept the 6,250-mile test in lieu of the 5,000-mile test. The small difference in vehicle operation before the first test would not affect the deterioration factor calculation.

In addition to the test scheduling issue, your letter also raises an issue regarding maintenance scheduling. In your proposed certification procedure, several maintenance items would be based on different schedules for durability vehicles and in-use vehicles. For example, durability vehicle spark plug

replacement would be based on the 31,250-mile (50,000-kilometer) interval that is specified in the German procedure but a 30,000-mile replacement interval would be recommended for in-use vehicles. These replacement intervals would not be precluded by the regulations. Paragraph 86.087-25(a)(3)(i)(A) specifies

that the spark plugs in light-duty durability vehicles may not be replaced more frequently than every 30,000-miles. Paragraph 86.087-38(b) allows the maintenance instructions which are provided to the ultimate purchaser to be based on the provisions of §86.087-25 even if less maintenance was actually performed on the associated certification durability-data vehicle.

With the exception of spark plug replacement, all of the other maintenance items discussed in your letter are listed in §86.087-25 as examples of non-emission-related scheduled maintenance. Section 25 provides that non-emission-related maintenance may be performed on durability-data vehicles at the intervals that are recommended to the ultimate purchaser. In your proposed maintenance schedules a base interval of 9,375-miles (15,000-kilometers) would be used for durability-data vehicles to satisfy the German requirements. However, a base interval of 7,500-miles would be recommended to the ultimate U.S. purchaser to be consistent with your past recommendations. Consistent with §86.087-38(b) for emission-related maintenance, EPA will allow less frequent maintenance to be performed on the durability-data vehicle than is recommended to the ultimate purchaser.

In your letter, you requested EPA approval for the performance of "additional testing and maintenance" on emission-data vehicles so that the German emission requirements can be satisfied. At this time, we do not have enough specific information to give any type of advance blanket approval. However, we can provide some general guidelines. For example, we obviously would not be concerned with any testing and maintenance that is performed after all EPA requirements, including any confirmatory testing at the EPA facility, have been satisfied. We would suggest that you give some consideration to the effects that the additional testing and maintenance might have on the usefulness of the vehicle in question in regard to some future certification need (such as running change testing). Concerning the performance of the testing or maintenance prior to the completion of all current certification requirements, the additional activities would have to (a) ensure the continued representivity of the emission-data vehicles, (b)

be approved by EPA in advance, and (c) be included in the records that are submitted to EPA. We can provide more specific and/or definitive guidance when we obtain details regarding the additional testing and maintenance that is being considered.

If you have any questions regarding this letter, please contact Mr. John Bozek at (313) 668-4292.

Sincerely yours,

Robert E. Maxwell, Director
Certification Division
Office of Mobile Sources

September 18, 1986

VOLKSWAGEN OF AMERICA, INC.
888 W Big Beaver
P.O. Box 3951
Troy, Michigan 48007-3951
Tel. (313) 362-6000
WU Telex--230 628

Mr. Robert Maxwell, Director
Certification Division
U.S. Environmental Protection Agency
2565 Plymouth Road
Ann Arbor, MI 48105

Subject: Harmonization of Certification Programs

Dear Mr. Maxwell,

I would like to thank you, on behalf of Mr. Schubarth-E. and myself, for the opportunity to meet with you to present a comparison of the U.S. Federal and German motor vehicle emission certification programs. As you will recall, the primary purpose for our June 19, 1986 meeting was to present you with our request to combine certain portions of the U.S. Federal emission certification and German type approval requirements. Our goal is to reduce the cost and test burden of these procedures. This reduction would be realized to the greatest extent if it were possible to build and test only one durability data vehicle (DDV) per engine family to satisfy both countries' requirements, since the durability test is one of the most expensive aspects of emission certification.

In addition, we would propose to use emission data vehicles (EDVs) operated to satisfy U.S. Federal emission certification test requirements for German type approval, upon completion of EPA testing. While these issues were extensively discussed during our meeting, Volkswagen/Audi hereby submits its formal request in writing. The following is a description of the variation between the U.S. Federal and German requirements and the Volkswagen/Audi proposals for satisfying these requirements.

Durability Test Schedule

Included as Exhibit I is a timeline which provides a comparison of the DDV test sequence for U.S. Federal emission certification and German type approval. The schedule reflects the mileage points at which maintenance and emission tests are performed, in accordance with each country's regulatory requirements. For the U.S., Title 40 of the Code of Federal Regulations, Part 86 is the appropriate reference. For Germany, the regulations applicable to emission type approval are referred to as Anlage (Enclosure) XXIII. An English translation of these requirements is included for reference a brief overview of the two sets of requirements is provided as Exhibit II.

Audi Volkswagen

As seen on Exhibit I, Volkswagen/Audi chose durability test points which occur at zero miles and 5000-mile intervals thereafter, with before and after -maintenance test performed at the 30,000 -mile point. This corresponds with the requirements of 40 CFR 86.084-26(a)(4)(i) which states;

... complete exhaust emission tests shall be made at 5,000 miles, and at 50,000 miles. The mileage interval between test points must be of equal length for the interval between zero miles and 5,000 miles, the final interval, and any interval before or after testing conducted in conjunction with vehicle maintenance..."

This durability test schedule provides a certain degree of flexibility not afforded by the German type approval requirements of Enclosure XXIII with its test intervals set at 10,000 km. However, strict adherence to the Enclosure XXIII requirements would preclude compliance with the U.S. requirement that states that a 5,000-mile test must be made and that test intervals must be of equal length.

Volkswagen/Audi offers two proposals for EPA's consideration and requests approval of one, if deemed appropriate;

- a) The DDV would be tested according to the German Enclosure XXIII schedule. This would satisfy the U.S. requirement regarding equal length intervals between tests. However, it would require EPA acceptance of the first test after the zero-mile test being conducted at 6,250 miles.
- b) The DDV would basically be tested according to the German Enclosure XXIII schedule with an additional test conducted at 5,000 mi (8,045 km). This procedure would meet the requirement regarding testing at the 5,000 - mile point. However, it would require EPA acceptance of a durability test schedule with one interval of unequal length between tests. The test following the 5,000 mile test would occur at 6,250 miles (10,000 km) with subsequent tests at regular 10,000 km intervals.

Maintenance

Exhibit I shows the maintenance points followed in the U.S. and German programs. A comparison reveals that the oil change intervals are longer for the German schedule while major maintenance points are more frequent than the U.S. schedule. In order to operate a single DDV to satisfy both sets of requirements, Volkswagen/Audi proposes to modify its maintenance schedule for the DDV as follows:

Maintenance	Intervals
Engine oil change	15,000 km (9,375 mi)
Engine maintenance (including spark plug replacement)	50,000 km (31,250 mi)

Adoption of this maintenance schedule for the DDV would mean that the certification engine oil change and maintenance intervals would be longer than those recommended to the customer. It is understood that EPA has recognized that due to the accelerated nature of the mileage accumulation schedule, it may be appropriate to perform DDV maintenance less frequently than that recommended to the ultimate purchaser. While the reason may be somewhat different in this case, Volkswagen/Audi would appreciate the same consideration. In accordance, with 40 CFR 86.088-25(b)(2) and (c), Volkswagen/Audi requests advance approval of this modified maintenance schedule. The schedule, as it compares to that recommended to the customer is shown below:

Maintenance Item	Interval (mi)	
	DDV	Customer
Engine oil change	9,375	7,500
Engine oil change, oil filter replacement, check for damage	18,750	15,000
Spark plug replacement, Air cleaner filter element replacement	31,250	30,000

R. Maxwell

Emission Data Vehicles

Volkswagen/Audi is considering the use of EDV's built and operated initially to satisfy U.S. Federal emission certification requirements for German type approval as well. Operation and testing would be in accordance with the U.S. Federal Regulations. Detailed records documenting vehicle build, mileage accumulation, testing and maintenance would be kept. Additional testing and maintenance performed in accordance with the German type approval procedures would also be documented in the vehicle's testing and maintenance log. Volkswagen/Audi requests EPA approval to conduct additional testing on EDVs to reduce the cost and test burden associated with the operation of separate vehicles for U.S. and German emission requirements.

Summary

Volkswagen/Audi requests EPA's approval in three specific areas:

- 1) Adoption of a modified test interval schedule for DDV's so that a single vehicle may be used to satisfy U.S. Federal and German DDV requirements.
- 2) Adoption of a modified DDV certification maintenance schedule so that a single vehicle may be used to satisfy U.S. Federal and German DDV requirements.
- 3) Use of the EDVs built and operated to satisfy U.S. Federal emission certification requirements for German type approval as well, to reduce cost and testing burdens.

If there are additional questions prompted by these requests or an interest in meeting to further discuss our proposals, do not hesitate to contact me.

Best Regards,

Wolfgang Groth
Manager
Emission Regulations & Certification

Enclosures

Exhibit I = CD8619_1.PCX

Exhibit II = CD8619_2.PCX